

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch

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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 1.28**WELDING INSPECTION REPORT****Resident Engineer:** Casey, William**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-026954**Date Inspected:** 22-Dec-2011**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1730**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job Site**CWI Name:** See below**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** SAS**Summary of Items Observed:**

12W/13W-D3

The Caltrans Quality Assurance (QA) Inspector Rick Bettencourt randomly observed the ABF welder Jeremy Dolman performing shielded metal arc welding (SMAW) of a multiple ultrasonic testing (UT) rejections which were excavated previously. The QA Inspector noted the SMAW repair was started on the previous day shift and was less than 10% complete upon the arrival of the QA Inspector in the AM. The QA Inspector randomly observed the ABF welder preheat the excavated area and surrounding base metal to the minimum required 100F prior to performing the repair. The QA Inspector randomly observed the QC Inspector verify the preheat utilizing a temperature indicating laser. The QA Inspector noted the ABF welder continued the SMAW repair utilizing 1/8" E7018 low hydrogen electrodes with 110 Amps. The QA Inspector noted the preheat and welding parameters did appear to be in general compliance with ABF-WPS-1001-Repair. The QA inspector noted the repair was not completed on this date. It was observed approximately 30% of the excavation was welded on today's shift.

12W/13W-A5

The QA Inspector randomly observed the ABF welder Rich Garcia performing carbon arc gouging (CAG) in an attempt to remove the steel backing bar from the underside of the weld segment A5. The QA Inspector noted, due to space limitations between the longitudinal stiffeners the CAG did appear to be a slow process. Once the steel backing bar was completely removed, the QA Inspector randomly observed the ABF welder begin performing the CAG back gouge manually. The QA Inspector noted the back gouge was completed on this date. The QA Inspector noted the QC Inspector Jesse Cayabyab performed MT of the completed back gouge and informed the QA Inspector of satisfactory results.

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12W/13W-A2 (SPCM)

The QA Inspector randomly observed the above identified weld joint had been previously welded from the top side of the weld joint. The QA Inspector randomly observed the ABF welder Rory Hogan had unbolted the maximum amount of splice plates and removed the steel backing bar from the underside of the weld joint. It was observed the weld joint had been back gouged and MT had been performed with satisfactory results. The QA Inspector randomly observed the ABF welder Rory Hogan had previously started the induction heating blankets on the outside of OBG to ensure the minimum required preheat of 150°F was achieved prior to and maintained during welding. The QA Inspector randomly verified utilizing a 150°F temperature indicating marker and noted the minimum required preheat had been achieved. The QA Inspector observed the ABF welder to be utilizing the semi-automated flux cored arc welding (FCAW) for the above identified weld joint. The QA Inspector randomly observed the Smith Emery (SE) QC Inspector identified as Salvador Moreno set the FCAW machine to the parameters of the approved WPS identified as ABF-WPS-D1.5-3110-4. The QA Inspector randomly observed the FCAW parameters were 240 Amps, 23.7 Volts and a travel speed of 150mm/min. The QA Inspector noted the ABF welder continued welding the FCAW root/fill passes for the remainder of the shift. The QA Inspector noted the A2 segment of the above identified weld joint was not completed on this date.

12E/13E-E1/E2

Upon the arrival of the QA Inspector it was randomly observed the ABF welder Wai Kit Lai was performing grinding tasks of the previously back gouged weld joint. The QA Inspector performed a random visual inspection of the in process back gouge and noted the weld joint appeared to be in general compliance with the contract requirements. The QA Inspector noted the back gouged weld joint did appear to be ground to bright metal and was blended to a weldable profile. The QA Inspector noted no heating blankets nor was welding equipment set up for welding. No welding was performed at the above identified location on this date.

13E/14E-F

The QA Inspector randomly observed the SE QC Inspector Jesse Cayabyab indicate with a paint marker the area in which a UT reject, was located in the above identified weld joint. The QA Inspector noted the ABF welder Fred Kaddu was on site to excavate and repair the rejected area. After the rejected area was indicated directly on the ground flush weld reinforcement, the QA Inspector randomly observed the ABF welder begin excavating the weld utilizing a carbon air arc. After the area had been excavated, ground and blended to a weldable profile, the SE QC Inspector performed MT of the excavation. The QA Inspector noted no relevant indications were located at the time of the testing. The QA Inspector performed dimensional measurements of the excavation and noted as follows: Y=530, L=100mm, D=10mm, W=30mm. The QA Inspector randomly observed the ABF welder preheat the excavated area and surrounding base metal to approximately 150F. The QA Inspector randomly observed the QC Inspector verify the preheat utilizing a temperature indicating laser. The QA Inspector noted the ABF welder began the SMAW repair utilizing 1/8" E7018 low hydrogen electrodes with 120 Amps. The QA Inspector noted the preheat and welding parameters did appear to be in general compliance with ABF-WPS-1001-Repair. After the root/fill/cover passes were completed the ABF welder performed grinding tasks and removed the weld reinforcement flush with base metal. The weld repair was completed on this date.

The ABF welder identified above moved to the next UT reject in the above identified groove weld for excavation and repair. The QA Inspector noted the same excavation and inspection process was performed as described above.

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After the excavation was complete the QC Inspector Jesse Cayabyab performed MT of the excavated area and noted no relevant indications were located at the time of the testing. The QA Inspector took dimensional measurements of the completed excavation and they were as follows: Y=1240, L=105mm, D=10mm, W=30mm. The QA Inspector randomly observed the ABF welder preheat the excavated area and surrounding base metal to approximately 150F. The QA Inspector randomly observed the QC Inspector verify the preheat utilizing a temperature indicating laser. The QA Inspector noted the ABF welder began the SMAW repair utilizing 1/8" E7018 low hydrogen electrodes with 120 Amps. The QA Inspector noted the preheat and welding parameters did appear to be in general compliance with ABF-WPS-1001-Repair. After the root/fill/cover passes were completed the ABF welder performed grinding tasks and removed the weld reinforcement flush with base metal. The weld repair was completed on this date.

13E/14E-E1/E2

Upon the arrival of the QA Inspector it was randomly observed the ABF welder Xiao Jian Wan performing carbon arc gouging (CAG) and removing the steel backing bar from the above identified weld joint. The QA Inspector noted the above identified welder spent the majority of the QA Inspectors shift removing the steel backing bar and beginning the back gouge for the above identified weld joint. The QA Inspector noted the CAG of the back gouge was not completed on this date.



Summary of Conversations:

As noted above.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Nina Choy 510-385-5910, who represents the Office of Structural Materials for your project.

Inspected By: Bettencourt,Rick

Quality Assurance Inspector

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Reviewed By: Levell,Bill

QA Reviewer